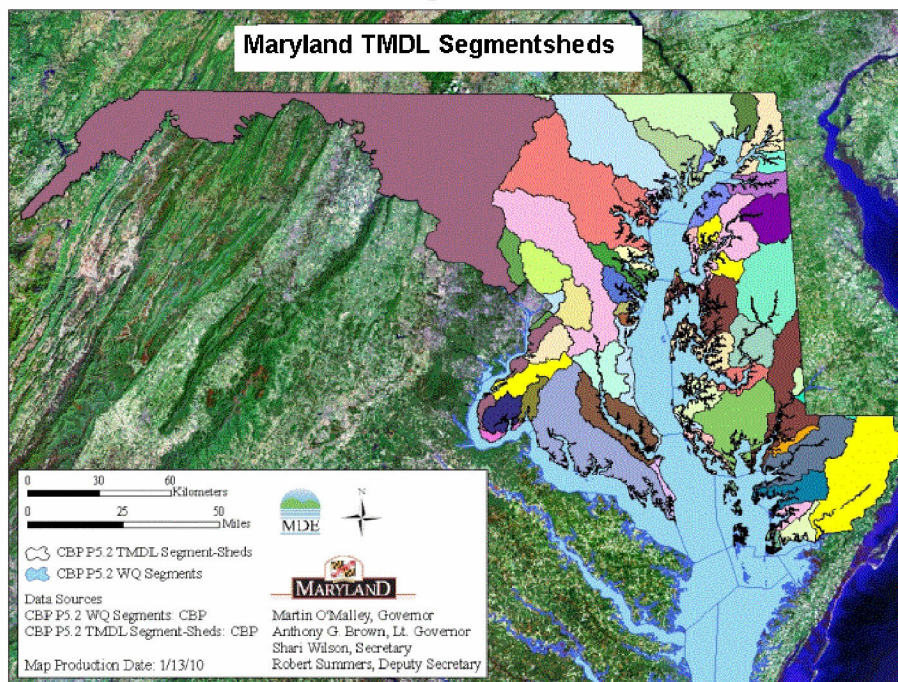


# Maryland Chesapeake Bay TMDL Watershed Implementation Plan



October 13, 2010 – Annapolis

# Draft Plan Orientation

## Eight Elements

1. Interim and Final Nutrient and Sediment Target Loads
2. Current Baseline Loading and Program Capacity
3. Account for Growth
4. Gap Analysis
- 5. Commitment & Strategy to Fill Gaps - "Options"**
6. Tracking and Reporting Protocols
- 7. Contingencies** To Be Determined based on Public Review
8. Appendix with Detailed Targets and Schedule

# Setting Allocations

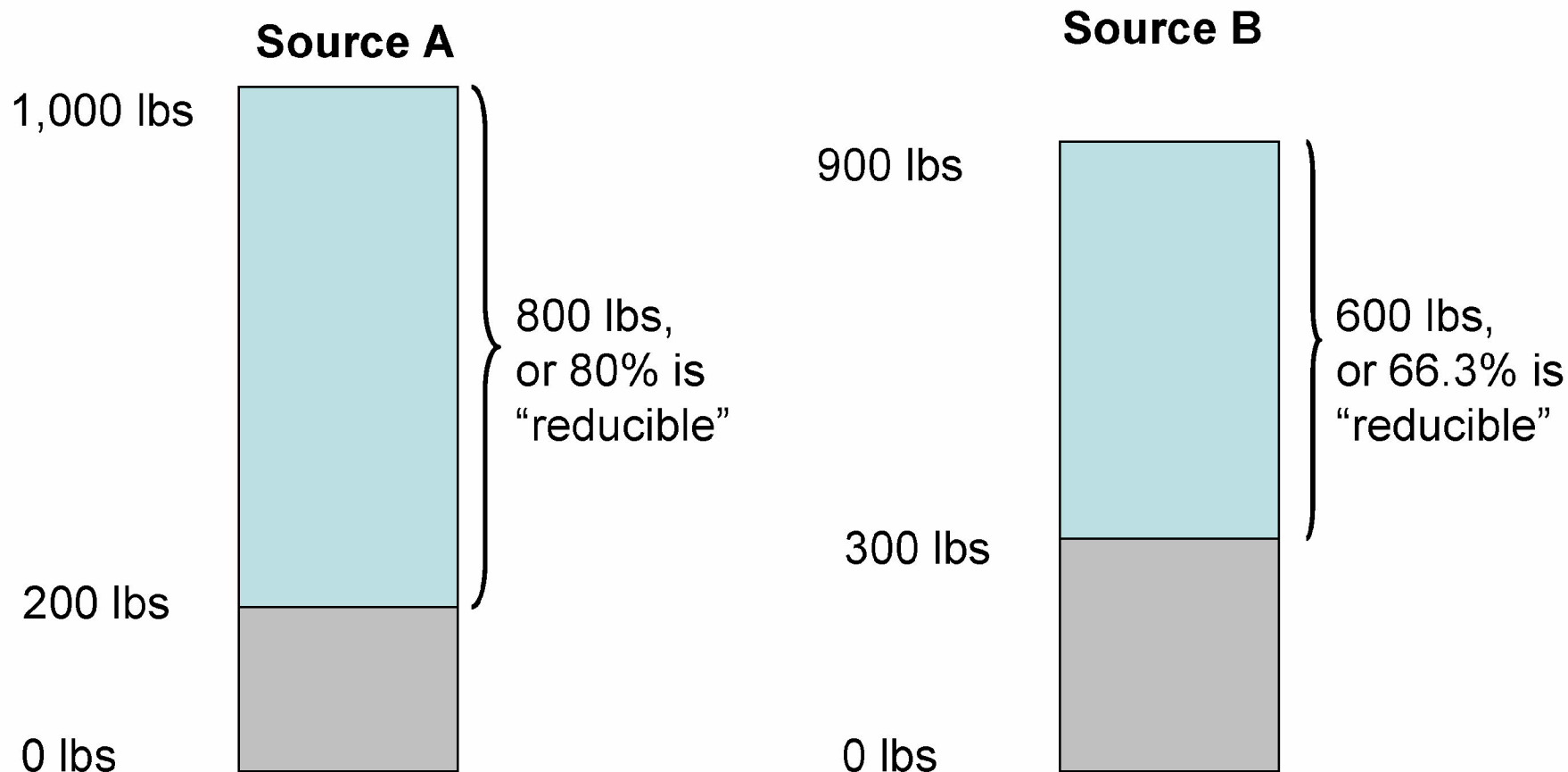
## “Final Target Loads” – By 2020

- Based on Objective Allocation Method:
  - Unbiased for or against any sector
  - Set Point Source Loads to Tributary Strategy Caps\*
  - Set Nonpoint Sources to:
    - “Equal percent reduction of *Reducible Load*”
      - Credit given for past reductions

\* Approximately

# Equitable Allocation Method

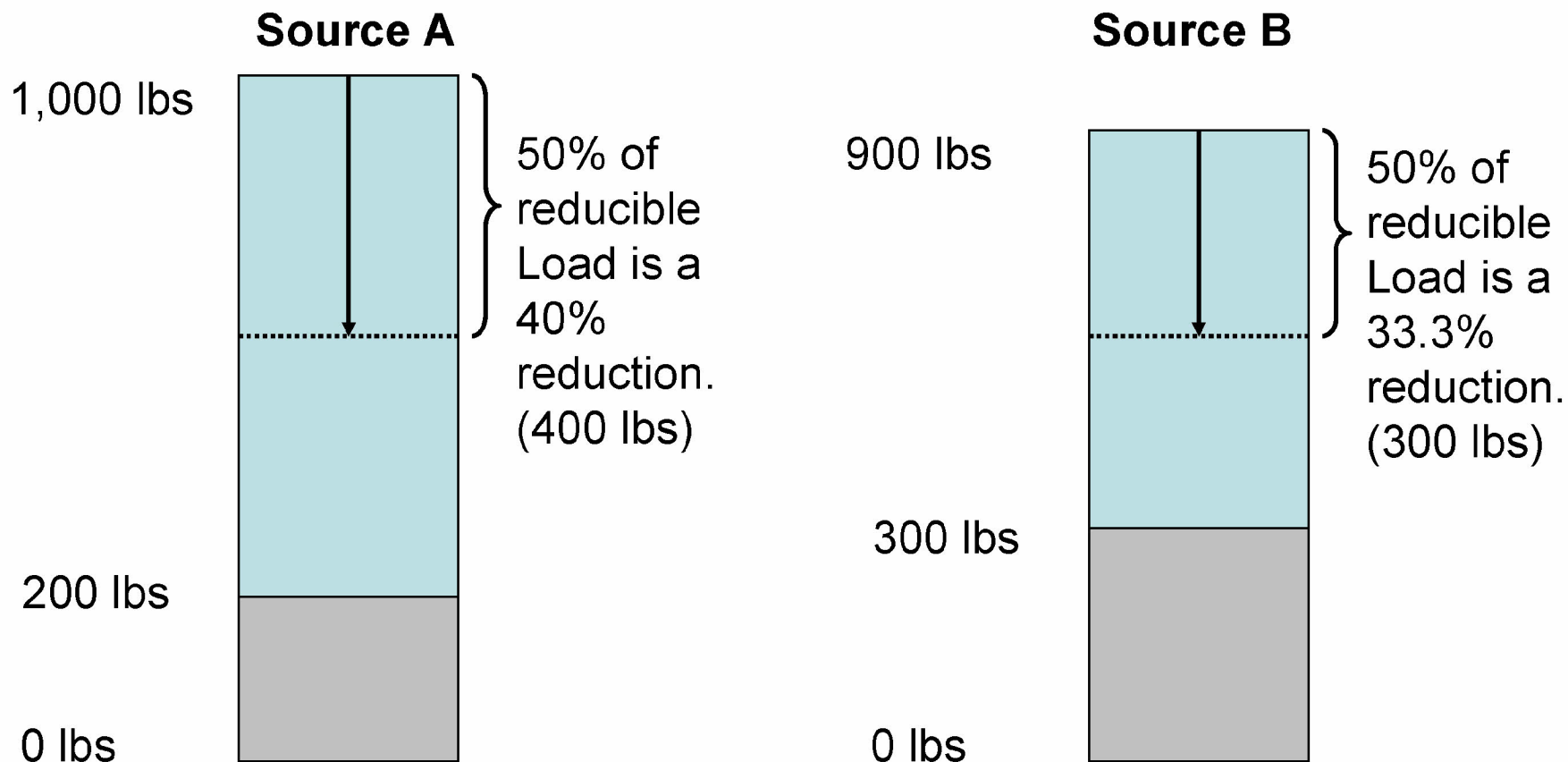
Example:





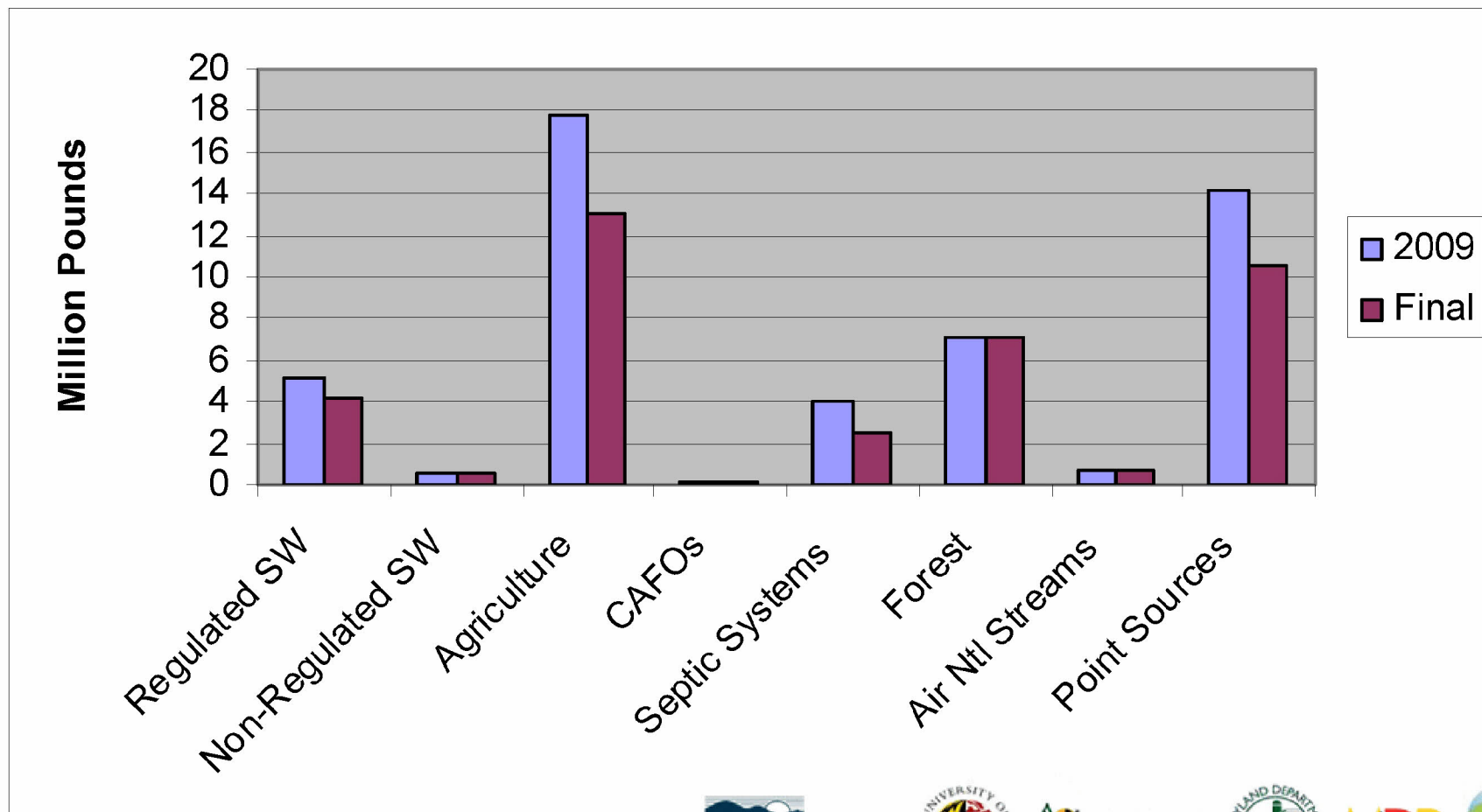
# Equitable Allocation Method

Example: 50% of Reducible Load...



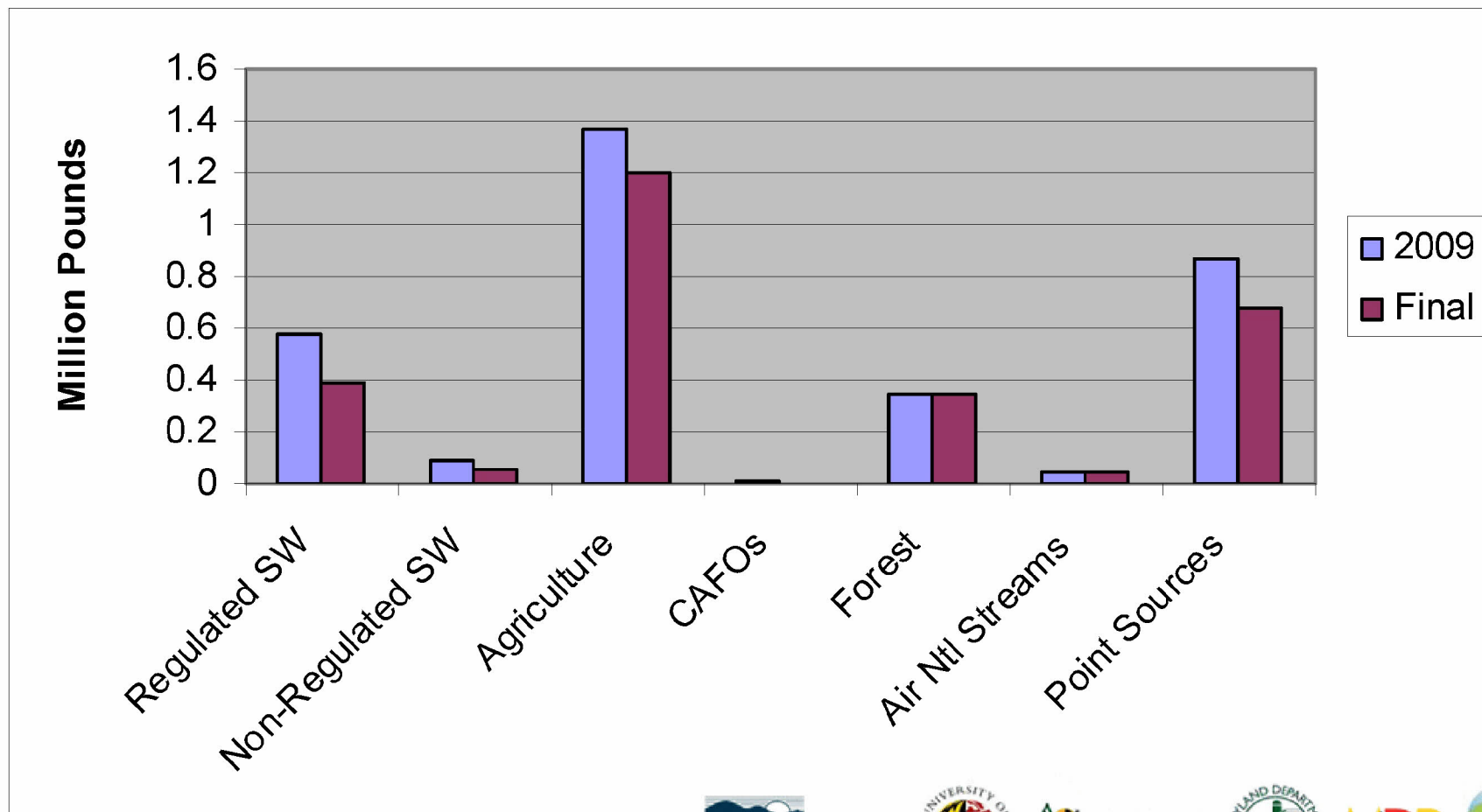
# Final Target Loads

## 2009 vs Final Target for **Nitrogen** by Sector:



# Final Target Loads

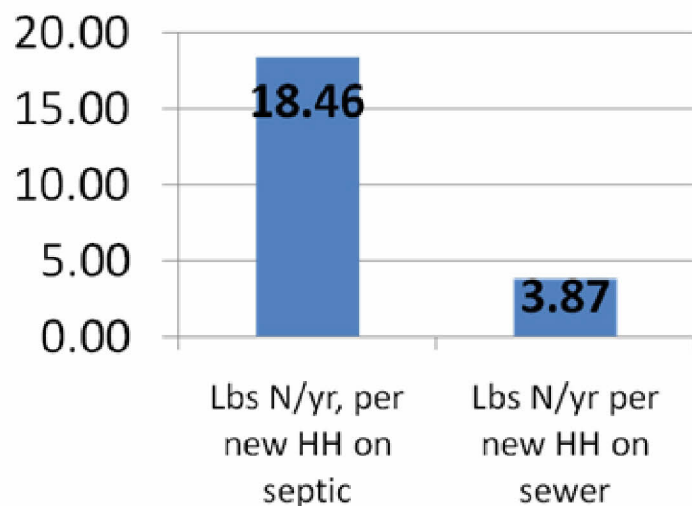
2009 vs Final Target for **Phosphorus** by Sector:



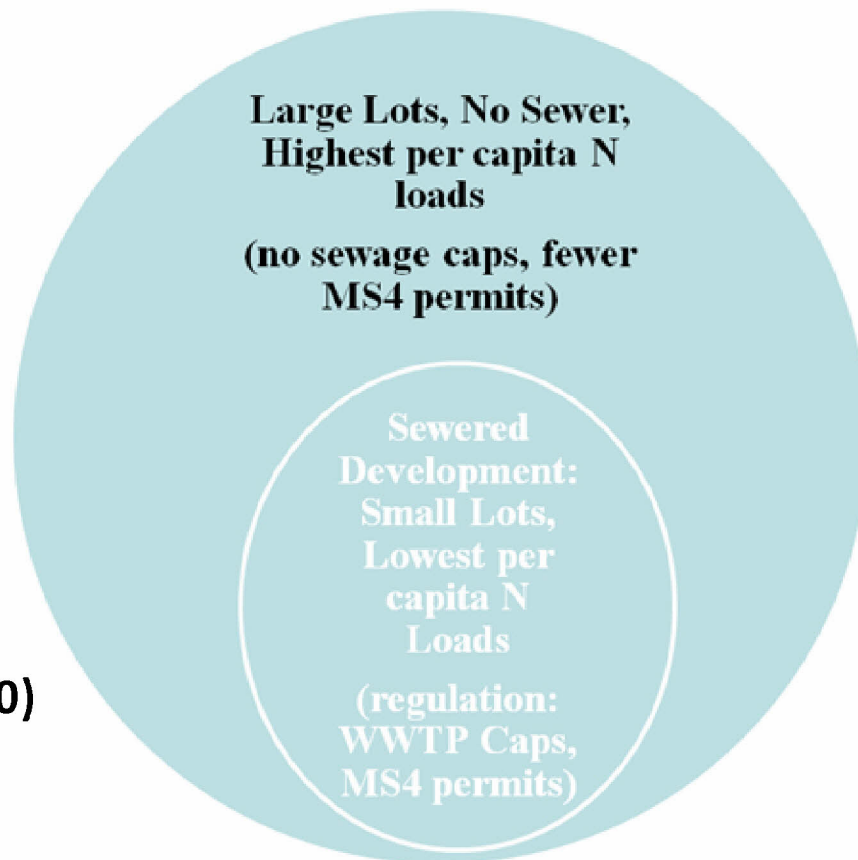
# Accounting for Growth in Loads

1. Power Plant Atmos. Cap Strategy (In Place)
2. Wastewater Cap Strategy (In Place)
3. EPA requirement to Offset NPS Loads:
  - a. Loads from New Land Development
  - b. Loads from New Septic Systems

# Accounting for Growth in Loads



**263,225 Additional Households  
Forecasted in Maryland (2010 -2020)**  
**29% served by septic tanks**  
**71% served by ENR WWTP**





# Offsetting New Loads

- Approach is Outlined in the Plan:
  - Has Incentives to Promote Smart Growth
  - Proposes Three Types of Geographic Areas:
    - Low load/capita (dense development areas)
    - Intermediate load/capita
    - High load/capita (low density areas)
  - Offsets tighter in lower density areas
- Option for Local Alternative Approach
- Schedule Envisions 2013 Implementation
- Trading System is Essential Element
  - Similar to system for Wetlands Mitigation

# Interim Target by 2017

## Highlights of Proposed Strategy Options:

- WWTPs
  - Complete ENR Upgrades for Major Municipal Plants
  - Upgrade Several of the Largest Minor Municipal Plants to ENR
  - Reductions for minor industrial plants
- Septic Systems
  - Offset Future Septic System Loads
  - Connect Failing Systems to WWTPs
  - Range of options for upgrading septic systems
- Stormwater
  - Offset Loads from New Development
  - Range of options for retrofitting old developed lands including Phase II permits and non-MS4 jurisdictions.
  - Increase urban nutrient management

# Strategy Option Highlights (Con't)

- Agriculture
  - Manure Incorporation to Reduce Ammonia Emissions
  - Precision Agriculture to Optimize Fertilizer Use
  - Numerous other options
- Natural Filters
  - Range of Options on Private and Public Lands
- Atmospheric Sources
  - Implement State Healthy Air Act
  - Implement federal Clean Air Act
  - Various vehicle emissions options

# Finalizing Phase I Plan

## Public Stakeholder Process:

- Sept. 1: Preliminary Draft Released to Public
- Sept. 24: Final Draft Released for Public Review
  - Comments Due November 8
- Sept. 27 – Oct. 6: Four Public Meetings
- Oct. 12, 13, & 14: Three EPA Public Meetings
- Oct. 18: Stakeholder Advisory Committee (SAC) Meeting
- Late October: SAC Presents comments to Maryland Bay Cabinet
- Incorporate Public Comments by Nov. 29

# Finalizing Phase I Plan (Con't)

## Anticipated Plan Revisions:

- Finalize Interim and Final Targets:
  - Supported by EPA Model validation
  - Subject to revision in Phase II
- Select Strategies for 2017 Interim Target (Chapter 5):
  - Starting point for Phase II Dialogue
- Provide Cost Estimates (Chapter 5)
- Provide Timelines for Implementation (Chapter 5):
  - Planning Steps
  - Legislative & Regulatory milestones
  - Implementation Target Date
- Identify Contingencies (Chapter 7)
- More Detail on Verification of Implementation



# Comments on Phase I

- Submit Comments on WIP in Writing electronically to:

[TMDLCoordinator@mde.state.md.us](mailto:TMDLCoordinator@mde.state.md.us)

... or by mail to:

**Tom Thornton**

**Maryland Department of the Environment**

**1800 Washington Boulevard – Suite 540**

**Baltimore MD 21230-1718**

- Suggestions for Comments:
  - **Strategy Options:** Focus on most and least desirable options.
  - **Allocations:** Are they “reasonable?” If not, suggest changes.
  - **Funding Recommendations**

# Phase II Process

## Overview

- Intent of Plan:
  - Set Planning-Level Target Loads for Implementation
  - More Geographic Detail of Target Loads
  - Opportunity to Revise Phase I TMDL Allocations
  - More Implementation Detail
  - Opportunity to Revise the Strategies
  - Provide consistent context for local watershed planning
- Timeline for Phase II Plan:
  - June 1, 2011: Draft
  - June – Nov:
    - Model Verification
    - Public Review
    - Plan Revision
  - November 1, 2011: Final

# Phase II Process (Con't)

- General Approach
  - State “Liaisons”
  - State Steering Committee
  - Identify & Invite Stakeholders – Local Leads
  - Step-by-Step Schedule
  - Support Materials, e.g., WIP Document Template
  - Request Essential Local Information
  - **Discuss & Refine Strategies and Target Loads**
    - Reach Consensus, Use State Default or Hybrid
  - Identify 2-yr Milestones by end of 2011

# Phase II Process (Con't)

- 2011 Schedule
  - **December:** Regional Orientation Meetings
  - **January:** Initial Working Meetings
  - **Feb/March:** Initiate Allocation Discussions
  - **April/May:** Finalize Allocation & Strategy Discussions  
Wrap-up Draft Phase II Plans
  - **June 1:** Submit Draft Plan to EPA
  - **June:** Confirmation Model Runs (if necessary)
  - **July:** Revise/Adjust Draft Plans
  - **August:** Public Review
  - **September:** Finalize Documentation
  - **November 1:** Submit Final Plan to EPA

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